

condyloid foramen of the humerus, in which it was said to differ from all the other Ursidæ. This group has been adopted as a distinct genus by the author in his 'Arrangement of the Families of Mammals.'

In reference to the statement that the supracondyloid foramen is absent in all other Ursidæ ("qui manque à tous autres Ursidés"), it may be well to recall that it is developed in the humerus of a fossil bear preserved in the palæontological collection of the Museum at Paris, and figured by Cuvier and Blainville (see 'Ostéographie des Mammifères,' *Ursus*, pl. xvii. desc. p. 93); but, as remarked by De Christol and Blainville, that specimen is doubtless exceptional or "monstrous," it being the only one known among hundreds examined exhibiting such a peculiarity. The same bone has been referred to by Dr. John Struthers, in the 'Lancet' (1873, vol. i. pp. 231, 232), in comments upon the hereditary occurrence of a supracondyloid process in Man. Judging by the figure of the humerus of *Tremarctos ornatus* given by Blainville, the supracondyloid foramen appears, however, to be a normal characteristic of that species; but it would be desirable that such supposition should be proved or disproved by the examination of other specimens, and my chief object in this communication is the hope that it may elicit such information.

I venture also to add another reference that has been overlooked by Dr. Gray as well as Dr. Fitzinger. In the 'Proceedings of the Zoological Society of London' for 1867, p. 268, Dr. Gray has proposed a genus *Viverriceps* for several Felidæ, and among them the *Felis planiceps* of Vigors and Horsfield; and in the 'Sitzungsberichte der Akademie der Wissenschaften zu Wien' for 1869 Dr. Fitzinger has based another genus (*Ailurogale*) on the same species. A subgeneric group had, however, long previously been proposed by Prof. Gervais (*op. cit.* p. 87, 1855) for that species, designated "Ailurin" (Latin, *Ælurina*), and distinguished by the double-rooted false molars of the upper jaw. In my 'Arrangement of the Families of Mammals' I have retained both *Ælurina* and *Viverriceps* (restricted) as genera.

V.—*Descriptions of New Genera and Species of Heteromera, chiefly from New Zealand and New Caledonia, together with a Revision of the Genus Hypaulax and a Description of an allied New Genus from Colombia.* By FREDERICK BATES.

[Continued from vol. xii. p. 485.]

HYPAULAX, mihi, Trans. Ent. Soc. Lond. 1868, p. 259.

Since the time I established this genus I have assiduously

collected all the species possible, and have especially endeavoured to obtain as large a series as I could of each species. I propose now to give some remarks on the species described by me at that time, as well as to describe others that are new.

*Hypaulax marginata* and *sinuaticollis*, mihi, l. c. p. 261.

These two species appear to be very rare, as I have been able to add but one other example of *marginata*, and not one of *sinuaticollis*, to the solitary example of each on which their descriptions were founded. The two species are extremely close to each other, but are, at present, well distinguished by the characters given. By some strange error, I have given the prothorax of *sinuaticollis* as longer than wide; it is, as well as the entire insect, relatively much narrower in proportion to its length than in *marginata*; the labium is more narrowly and deeply emarginate in front; the space between the palpi narrower and more convex on the face; the mentum is densely hirsute. In both species the mandibles are strongly notched at the apex; the gular furrow is very strong and close to the base of the submentum; the cheek-furrow is deep and curved, extends nearly to the gular furrow, and terminates in a large, subpyriform pit or excavation.

My second example of *marginata* is from Western Australia. It is considerably smaller than the typical example (length 8 lines); the chin is strongly bearded; the two impressions on the prothorax are placed further from the base; and the 3rd and 4th ventral segments are distinctly sinuate behind: these differences are possibly sexual, although I can see no difference in the form of the anterior tibiæ; at any rate they are not of sufficient value to warrant me in holding it as a distinct species.

*Hypaulax tarda*, mihi, l. c. p. 262.

This species also appears to be very rare, as I have been able to add but a second example. It is at once to be distinguished from the two preceding by its strongly transverse prothorax, with the hind angles more acutely produced and more outwardly directed, and by its somewhat "squat" figure; the mandibles are notched at the apex; the labium is broadly emarginate in front, the space between the palpi narrow, its face but little convex; the gular furrow is broad but less deep than in those preceding; the cheek-furrow is slightly arched, and does not terminate near the gular furrow in an expanded subpyriform excavation; the 4th ventral segment is convex and strongly and somewhat sinuously emarginate behind; and the sides of the prothorax are more finely margined; the intervals between the rows of punctures on the elytra are flat, even at the sides and

apex; the 9th row of punctures is joined behind (apically) to the 1st, the 8th to the 7th, the 6th to the 3rd, and the 5th to the 4th; these differences, added to those given in the original description, will readily enable any one to separate the species.

My second example is from *Wide Bay*: it differs from the typical one only in the head having a rounded depression on the crown, the impressions &c. on the prothorax less strongly marked (almost obsolete), the elytra more convex and consequently more abruptly declivous behind, the striæ a little fainter, the punctures larger, and the intervals a little less flat.

*Hypaulax opacula*, n. sp.

Oblong, or oblong-ovate, sometimes elongate-ovate: black, subopaque. Labium broadly emarginate and densely ciliate in front, the space between the palpi wide and scarcely convex on the disk; mandibles strongly notched at apex; mentum strongly transverse, strongly angulate at the sides, front margin notched in the middle, a large round fovea on the disk, and, in six out of the seven examples before me, densely hirsute (in the seventh it is entirely naked); gular furrow strong, placed distinctly further from the base of the submentum than in the species preceding; cheek-furrow as in *H. tarda*, but not extending nearly so close to the gular furrow; the submentum, and that portion of the gula before the furrow, more convex or bulging than in any of the preceding: head formed as in *H. tarda*, very minutely and distantly punctulate, the punctures more numerous on the epistoma; epistomal suture well marked, angulate at the sides; vertex convex: prothorax opaque, more or less transverse, regularly but not strongly convex, feebly emarginate in front; base bisinuate, and a little wider than the apex, sides more or less strongly and regularly rounded, and more or less distinctly sinuous in front of the hind angles, which are ordinarily subacute and directed backwards (in some examples they are a little outwardly directed); median dorsal line very faintly marked; the entire surface minutely punctulate (in some examples almost imperceptibly so), and there are ordinarily several more or less distinct oblong impressions at each side of the disk and nearest to the base; the lateral edges though thickened are not, except sometimes at the hind angles, at all channelled or lined within this thickened edge or margin, and have not the appearance of a recurved plait or fold having a fine groove or channel within, as is the case with all the other species of the genus; scutellum convex, almost equilaterally triangular, pointed behind: elytra subovate, a little less opaque than the prothorax, distinctly wider at base than base of pro-

thorax, faintly striated, obsolete so, or not at all, on the disk; the punctures large, irregular, ordinarily oblong; frequently two or three run together; apically the arrangement of the rows of punctures is the same as in *H. tarda*; intervals more or less (but never at all strongly) convex, impunctate: prosternal process wide, transversely rugose, broadly rounded behind, strongly tricarinate, the central carina enclosed by the two outer; third and fourth ventral segments sinuously emarginate behind: legs and underside shining black; tarsi, palpi, and antennæ piceous; anterior tibiæ elongate, more curved near the apex in the ♂.

Length 6 to 7½ lines.

*Hab.* Rockhampton. Seven examples.

A very distinct species, and at once to be distinguished from all the others by the form &c. of the prothorax, especially by the character of its lateral edges, as indicated above.

*Hypaulax ampliata*, n. sp.

Oblong, broad, black, slightly shining. Labium broadly and sinuously rounded and ciliate in front, the space between the palpi rather wide, its face very convex and longitudinally channelled down the centre; mentum naked, plane, transversely cordiform, with the usual small wing-like expansion on each side the apex at back; mandibles broadly and squarely truncated at apex; gular furrow deep but not wide, very distant from base of submentum; cheek-furrow very short (almost obsolete), scarcely extending beyond the upper corner of the eye beneath: head and prothorax more or less distinctly but very finely punctulate, most strongly so on the epistoma; epistomal suture distinct, arched, a little sinuous in the middle: prothorax ample, transverse, subopaque, but little convex, distinctly widest in front, apex very feebly emarginate, front angle almost obsolete; sides strongly rounded anteriorly, then subparallel to behind the middle, thence rapidly contracted to the hind angles, which are small, scarcely prominent, and slightly outwardly directed; base very broadly lobed in the middle, and extending further backwards than the hind angles; lateral edges strongly thickened, except in front of the hind angles, abruptly interrupted or notched immediately behind the middle; scutellum convex, strongly transversely triangular: elytra a little shining, broadly oval, moderately convex, distinctly wider at base than base of prothorax; base strongly emarginate; basal ridge very thick and prominent, and clearly continuous with the sutural interval, the ordinary short scutellar row of punctures either altogether absent or represented by a single faint oblong impression; more or less faintly striated

(obsoletely on the disk), the punctures moderate but deep, rounded or oblong; intervals nearly flat, more or less visibly but always minutely punctulate; apically the 1st stria is joined to the 9th (the 8th being joined to 9th at some distance from the apex), the 7th to the 2nd, the 6th to the 3rd, and the 5th to the 4th, or 3 and 4, 5 and 6, and 7 and 8 are joined together behind in pairs: prosternal process very wide, strongly tricarinate, the middle carina much the widest and not enclosed by the two outer; end broadly truncated or trilobed behind, in the latter case the middle lobe is the most prominent; flanks of prothorax smooth: legs rather slender, and, together with the underside, antennæ, &c., shining black.

Length  $12\frac{1}{2}$  to  $13\frac{1}{2}$  lines; width of prothorax across the middle  $4\frac{1}{2}$  to 5 lines; width of elytra behind the middle  $5\frac{1}{2}$  to 6 lines.

*Hab.* Champion and Nicol Bay, West Australia. Two examples.

*Var. Parryi.*

Smaller ( $10\frac{1}{2}$  to  $11\frac{1}{2}$  lines) than the type, more convex, especially the prothorax, the punctuation on the intervals of the elytra obsolete or altogether absent, and the striæ at the apex confusedly united to each other.

Two examples obtained from the collection of Major Parry, labelled "Voyage of the 'Beagle.'"

*Hypaulax orcus*, Pascoe (*Nyctobates*), Journ. Ent. ii. p. 453.

This very variable species is nearly related to the preceding, but may be distinguished by its more oblong parallel form; the prothorax is less strongly transverse, the apex decidedly arcuate emarginate, the front angles consequently appear more prominent, and are subacute or narrowly rounded; the sides anteriorly are much less strongly rounded, the hind angles longer, more acute, and obliquely outwardly directed, the apex is wider, equal to, or narrower than the base; the head and prothorax are almost smooth; the base of the elytra less distinctly wider than the base of the prothorax; the striæ more distinct, the intervals, especially at the sides and apex, convex; the legs are stouter; the gular furrow situated a little nearer to the base of the submentum; the flanks of the prothorax strongly wrinkled on the middle; the middle carina of the prosternal process much narrower, the two sulci are consequently much wider and are continued in front (at right angles) halfway across the sternum, in front of the coxæ, the prosternum thus appearing to have a strong transverse impression before the coxæ; this

last character, and the rugosities on the flanks of the prothorax, will immediately serve to differentiate the two species.

Length 11 to 12 lines; width of prothorax across the middle  $3\frac{2}{5}$  to  $4\frac{1}{5}$  lines; width of elytra behind the middle  $4\frac{1}{5}$  to 5 lines.

*Hab.* Swan River and Champion Bay, West Australia. Six examples.

*Var. acutangulata.*

Two examples from New South Wales slightly differ in being a little smaller (10 lines), in having a distinct longitudinal impression on the cheek, starting from the lower corner of the eye beneath; the striæ on the elytra stronger than ordinary, the intervals more convex and, at the sides and apex, subnodulose. In one of the examples the prothorax is strongly transverse, and the lateral thickened margin is abruptly expanded (just below the ordinary notch behind the middle) into a broad rounded tooth, and the hind angles are very acute.

*Note.* The mandibles in *H. orcus* and *H. ampliata* have the apex broadly and squarely truncated; in all the other species the apex is more or less strongly notched or bifid.

*Hypaulax tenuistriata*, n. sp.

Oblong, robust, black, shining. Labium deeply and widely emarginate in front, with a tuft of hairs at apex of central portion (between the palpi); mandibles strongly notched at apex; gular furrow strong, very near to the base of submentum, a short longitudinal groove extending from base of submentum to the gular furrow; cheek-furrow broadly and deeply impressed, extending obliquely from the upper edge of the eye beneath to close to the gular furrow: mentum more or less transversely subcordiform, more or less densely clothed with hairs (sometimes very sparsely so); the hairs shorter, finer, and less intermingled than in any of the preceding that have hirsute mentums: head and prothorax minutely (the former very sparsely) punctulate; crown sometimes impressed by an irregular transverse line and by two small foveæ, in others it is a little more convex and smooth; epistomal suture well marked, angulate at the sides: prothorax transverse, convex, feebly emarginate at apex, and always narrower than at base; anterior angles not prominent; sides more or less strongly rounded to behind the middle, thence contracted in a curve to the hind angles, which are moderately prominent and acute and directed backwards; base subsinuously truncated; sides finely margined or thickened, more or less crenulated, and sometimes notched or interrupted at the middle, a little reflexed, distinctly (though not broadly) channelled within the thickened

border; ordinarily there are two more or less distinct and rounded foveæ at each side of the median dorsal line, which is obsolete: scutellum transverse, broadly rounded behind: elytra oblong or oblong-ovate; base truncated, the thickened basal margin rather narrow, not clearly continuous with the sutural interval; finely but distinctly striated, the punctures in the striæ small (especially on the disk), close-set, narrow, oblong; ordinarily the striæ 3 and 4, 5 and 6, and 7 and 8 are united behind in pairs; sometimes, however, it is 3 and 4, 5 and 8, and 6 and 7 that are united; the short scutellar row consists of from five to eight small close-set punctures; intervals flat on the disk, sometimes convex on the sides, indistinctly punctulate: prosternal process tricarinate; the middle carina enclosed by the two outer, which are ordinarily transversely corrugated: legs robust and, together with the underside, shining black; tarsi, antennæ, and palpi dark castaneous.

Length 8-10½ lines.

*Hab.* Queensland (Rockhampton) and New South Wales. Nine examples.

At once to be distinguished from all the preceding by the finely punctured striæ of its elytra and its more glossy black surface. Like all the other species of which a series of examples has been obtained, the form of the prothorax (especially) and of the elytra is subject to considerable variation.

*Hypaulax oblonga* and *H. ovalis*, mihi, *l. c.* p. 263.

A careful examination of a series of nearly forty examples has convinced me that the specimens (one of *oblonga* and two of *ovalis*) on which I founded these two species are really the extreme forms of but one species. As the form *ovalis* has been figured (*l. c.* plate xii. fig. 1) it will be most convenient to take that name for the species: therefore *oblonga* = *ovalis*.

This species is intensely variable in the form &c. of the prothorax\*, especially in the amount of rounding of the sides anteriorly. The elytra also are variable as to form; they may be subparallel (as in the form *oblonga*) or decidedly oval; and there exists every variety of form between.

This species may be at once distinguished from all the others by the deeply crenate-striate elytra and convex intervals, and by the labium, which has a deep rounded excision at each side in front, the middle portion between the palpi being prominent and rounded in front, and ordinarily without a tuft of hairs.

\* It was in error that I described the prothorax of *oblonga* as longer than wide.

From *H. tenuistriata*, with which it is most closely allied, it may be separated by the above characters, and also by its more slender form, the gular furrow placed less close to the submentum, the absence of the short longitudinal groove from base of submentum, the cheek-furrow shorter and more or less recurved round the lower (narrow) edge of the eye beneath.

Out of the whole of the examples of both sexes I possess of this species but one has the mentum clothed with hairs; this, coupled with what we have seen before in the other species, makes it quite evident that the bearded chin possesses neither specific nor even sexual value.

*Hypaulax gayndahensis* and *H. opacicollis*, MacLeay,  
Trans. Ent. Soc. N. S. Wales, ii. pp. 284 & 285.

As the descriptions of these two species extend to but little over two lines for each, I find it impossible to decide whether they belong to any of my species or not. In a difficult genus like the present, the species of which are subject to great individual variation, it is impossible intelligibly to characterize the species in such short descriptions.

#### ASTATHMETUS, n. g.

*Mentum* slightly pedunculate, winged; the central portion large, prominent, not wider than long, hexagonal. *Maxillæ* with the inner lobe unarmed; last joint of the palpi elongate-triangular, the outer side longest. *Labium* strongly transverse, partly concealed by the mentum, broadly emarginate and ciliate in front; palpi distant, the last joint oval, with the apex broadly truncated. *Gula* strongly transversely sulcate. *Submentum* small, transversely triangular, a deep longitudinal sulcus extending from its base to the gular furrow. *Cheeks* beneath strongly sulcate, the furrow extending obliquely from the base of the antenna, skirting the upper edge of the eye, to close to the gular furrow. *Mandibles* broadly truncated, and slightly notched near the lower edge at apex. *Head* subprominent, subquadrate; front a little depressed; front and epistoma together trapeziform: *antennary orbits* well rounded. *Epistoma* squarely truncated in front; the suture well marked at each side. *Labrum* transverse, front angles well rounded, fore margin ciliate and slightly emarginate. *Antennæ* feebly perfoliate; joints 3-6 obovate and a little nodose at apex, 3 longer than 4, 4-6 gradually a little shorter, 7-10 gradually larger and wider, depressed, 11 large, subovoid. *Eyes* moderate, rather prominent, narrow, transverse, obliquely contracted